

## ABSTRACT

A process for preparing olefinic living polymers having a molecular weight distribution ( $M_w/M_n$ ) of 1 to 1.3, comprising  
5 polymerizing an olefinic monomer having 2 to 20 carbon atoms at low temperatures in the presence of a catalyst comprising (A) a hafnium or zirconium-containing compound having one or two cyclopentadienyl backbones, (B) a triphenyl boron compound or a tetraphenyl borate compound and optionally (C) a specific mono-, di- or trialkylaluminum  
10 compound. When the catalyst comprising the zirconium-containing compound is prepared by further using a titanium-containing compound (D), the polymerization temperature can be raised.